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ABSTRACT

The discussion outlines a number of complex problems in both measuring counterarguing and establishing its causal role in the persuasion process. The authors emphasize that given these limitations, data from measures cannot at this point clearly establish the validity of theoretical positions that emphasize counterarguing as an intervening concept. When responses on the measure correspond to various other elements in the nomological net in a prediction fashion, however, there will be more confidence in the theory and in the measure than if the predicted relationship fails to occur. The authors further found that the utility of counterargument measures inheres not so much in settings where the predicted outcome is obtained but rather in the opposite. The authors conclude that although measuring counterarguing presents complex problems that resist solution, research should continue. Attitude change theorists should note the fallibility of such measures and remain cautious when using data from them to substantiate a theoretical position. (RK)

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ON MEASURING COUNTERARGUING

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A well-known hypothesis in the attitude change literature is that people often resist persuasion by engaging in a silent dialogue or argument with the source of the message. Festinger and Maccoby's (1964) description of the cognitive behavior of a person who, strongly committed to an opinion, listens to a vigorous and persuasive message that attacks that opinion, presents one conceptualization of the counterarguing process and, in addition, implies that people commonly use it to maintain their present beliefs.

> Certainly such a listener is not passive. He does not sit there listening and absorbing what is said without any counteraction on his part. Indeed it is most likely that under such circumstances . . . he is very actively, inside his own mind, counterarguing, derogating the points the communicator makes and derogating the communicator himself. In other words, we can imagine that there is really a dialogue going on, one side being vocal and the other subvocal . . . if one could somehow prevent the listener from arguing back . . . it seems reasonable to expect that the persuasive message would then have more of an impact. The listener, not able to counterargue, would be more influenced (1964, p. 360).

The hypothesis that silent counterarguing can facilitate one's ability to resist influence can be traced to the classic research conducted by Hovland and his associates on the relative effectiveness of one- vs. two-sided communications. In the first of these studies, Hovland, Lumsdaine, and Sheffield (1949) suggested that a one-sided counterattitudinal communication (containing only arguments that supported the advocated position) might be less effective than a two-sided counterattitudinal message, because those hearing the former would be "stimulated . . . to rehearse their own position and seek new ways of supporting it (p. 203)." While the results of this study were consistent with this hypothesis, they were also open to other interpretations. Nevertheless, counterargumentation remained an important concept in attitude change research. For example, consider McGuire's now classical research on increasing resistance to persuasion via "belief bolstering." In a series of studies McGuire (1964) demonstrated that pre-communication presentation of mild, easily refuted arguments attacking a cultural truism (inoculation) rendered subjects less susceptible to a subsequent influence attempt also attacking that truism. McGuire's primary explanation for the increased resistance of inoculated subjects was that the inoculation treatment both increased subjects' motivation to counterargue (by alerting them that their beliefs were not above attack) and increased their ability to create adequate counterarguments.

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In addition to explaining inoculation effects, counterarguing plays an essential explanatory role in two other related attitude change literatures--distraction and forewarning. There are now at least twenty social psychological studies of distraction (cf. Baron & Miller, 1970) and some two years ago Papageorgis (1968) reviewed approximately twenty-five studies on forewarning.

The Need for a Measure of Counterarguing

From the standpoint of the heavy explanatory burden placed upon counterargumentation, it is striking that so little emphasis has been geared toward measurement of counterarguments. Measurement is desirable for two reasons. First, despite the fact that theorists extensively use counterarguing as an intervening explanatory variable, it is by no means clear that the counterargument process is either a typical or effective means of resisting influence. That is, most of the data interpreted in terms of differential ability and/or motivation to counterargue are open to other equally plausible alternative explanations. For example, Tannenbaum (1967) reinterprets the bulk of McGuire's inoculation research in terms of congruity theory. Given the fact that this reinterpretation does not invoke counterargumentation, it is interesting to note that while McGuire conducted 11 studies investigating inoculation, in only one does he report any direct support for the notion that the different inoculation procedures do indeed produce differences in counterarguing (McGuire, 1962), and even in this instance the standard level of statistical significance was not obtained. Similarly, Festinger and Maccoby's (1964) finding that distraction enhances persuasion is not solely explicable in terms of their own interpretation--that distraction interferes with counterarguing. Indeed there are a variety of explanations which pose reasonable alternatives to this "interference" hypothesis and none of these postulate or require any counterarguing process (Baron & Miller, 1970; Osterhouse & Brock, 1970). Lastly, there is no data in the forewarning literature which demonstrates that differential counterarguing properly explains the forewarning effect.

The literature dealing with inoculation, distraction, and forewarning may well exaggerate the extent of man's rationality. By invoking the counterargument construct it tends to assume that a rational consideration of the pros and cons relevant to an issue generally determines the degree of attitude change that results from a persuasive attempt. In part, this bias toward a rational view of man may stem from using college students as subjects and conducting research in the university setting. Consistency, logic, and the suppression of emotional reaction, are probably particularly salient to the college student when he is being scrutinized by academicians in an academic setting. Indeed, the discovery of various response sets (Bentler, Jackson, & Messick, in press; Couch & Keniston, 1960), while not speaking on the extent to which man is nonrational, nevertheless provide documentation for an opposite emphasis.

In short, the counterargument process may simply amount to a theoretical fiction. Since there is little, if any, firm evidence that the process directly affects persuasion, other interpretations may well account for the data that it has been invoked to explain. Quite obviously a compelling resolution of these questions requires adequate measures of counterarguing. Inferences of differential counterarguing made from differential attitude change cannot stand as support for counterargument explanations of persuasion processes.

A second argument for a direct measure of counterarguing is that if one can indeed demonstrate that counterarguing increases resistance to persuasion (or if one simply grants this assumption) it would be important to discover what variables affect its production (see Brock, 1967, p. 298, for a similar argument). Further, it would be important to ascertain at what point(s) in the persuasion process it occurs: whether in anticipation of the message, during its presentation, after the message ends, or at all of these points. Clearly, resolving questions such as these require a valid sensitive measure of counterarguing. In brief, given the present state of knowledge, a variety of issues could be clarified if counterarguing were successfully measured in studies of attitude change.

The reason for this lack of direct data is easy to understand. Quite simply, many complex and subtle problems arise when attempting to devise an adequate measure and heretofore these problems discouraged investigators from reporting counterargument data with any confidence. This paper focuses on the methodological problems of devising an adequate measure of counterargument. It will analyze the questionable aspects of the measurement techniques used thus far (e.g., McGuire, 1962; Brock, 1967; Baron & Miller, 1969; Miller & Baron, 1969; Janis & Terwilliger, 1962; Osterhouse & Brock, 1970) and will suggest some solutions along with suggestions for future research.

Inadequacies of Typical Measures of Counterarguing

Definition. The majority of studies that attempt to measure counterarguing simply ask subjects to list or write down specific counterarguments or general thoughts that occurred to them during (or in some instances, prior to) the presentation of the persuasive appeal (Brock, 1967; Baron & Miller, 1969; Miller & Baron, 1969; Osterhouse & Brock, 1970). These free responses are then coded or scored in some manner. This type of measurement technique requires a clear definition of what is and what is not a counterargument. Brock (1967) was the first to develop an explicit definition. He originally defined counterarguments as declarative statements directed against the advocated position that contain "a specific unfavorable or undesirable consequence that was not simply a restatement or paraphrase of the advocated position." Simple statements of opposition, affective reactions (e.g., "It makes me mad."), irrelevancies, and statements agreeing with the advocated position were not counted as counterarguments.

Brock's original definition was an important step in formally delineating what is and what is not a counterargument. This particular definition, however, had certain inadequacies. Defining counterarguments as statements containing "a specific unfavorable or undesirable consequence" of the advocated position, specifically excluded such seemingly valid counterarguments as statements mentioning omissions, misstatements of fact, or logical errors in the communication. Osterhouse and Brock (1970) corrected for this by expanding Brock's earlier definition to also include statements which either suggested alternatives to the advocated position or "challenged the accuracy or validity of the communication (p. 350)."

Thus, Osterhouse and Brock's (1970) expanded definition would seem to (1) explicitly include statements that attack the credibility of the message, and (2) allow for counterarguments that do not mention undesirable consequences of the advocated position. However, even this expanded definition may be too

narrow. The definition still excludes statements that solely support the position rejected by the communicator (although scoring alternatives to the advocated position as counterarguments comes close to this). Secondly, his requirement that a counterargument be a declarative sentence rules out rhetorical questions. These restrictions seem inappropriate. Such statements certainly constitute the type of counterargument described by Festinger and Maccoby (1964) and by Freedman and Sears (1965). In many instances some statements of the type listed above would constitute the most powerful refutation of a persuasive appeal. We therefore urge an expansion of Brock's definition to include such statements.

A thornier definitional problem, not specific to only Brock's definition, concerns the categorization of statements that pertain to the source of the message. Festinger and Maccoby strongly imply that such comments constitute one of the types of active defenses that go on during a persuasive appeal. "It is most likely that . . . while he (the subject) is listening to the persuasive communication, he is very actively . . . counterarguing, derogating the points the communicator makes and <u>derogating the communicator himself</u> (our iralics, 1964, p. 360)."

While this implies treating statements derogating the source as counterarguments, others contend that source derogation and content-related counterarguments constitute <u>alternative</u> modes of resisting influence (e.g., Freedman & Sears, 1965). Indeed, Festinger and Maccoby, at a later point in the paper quoted above, seem to note this conceptual distinction. "It may be that in a distraction condition, not being able to effectively counterargue, subjects are influenced . . . unless they are able to derogate and reject the speaker (p. 365)." The fact that expressions of source derogation may be the result of successful content-oriented counterargument complicates this ambiguity. For example, while a subject's statement that "the speaker doesn't know what he is talking about" would certainly be classed as source derogation, the statement also may express in shorthand that the subject noted a number of content-related faults in the communication. However, given the possible conceptual distinction, the only sensible approach is to construct separate categories for both source- and content-oriented comments and observe the separate effects of distraction on each category as well as on the combination.

<u>Validity</u>. Another criticism of the typical measure of counterarguing concerns validity. The basic problem is the degree of correspondence between the responses elicited by the measure and the process one really wishes to measure. The essence of this problem is that to demonstrate that subjects can produce counterarguments when asked by the experimenter to do so in no way establishes that they spontaneously engage in such activity when not asked. That is, given the reactive nature of typical counterargument measures (a direct request to list the counterarguments or ideas one had at an earlier point in time), it is quite possible that the measurement attempt itself and not the earlier anticipation of or actual exposure to a persuasive communication instigates counterarguing.

Brock (1967; Osterhouse & Brock, 1970) showed sensitivity to this problem and attempted to circumvent it by not specifically asking subjects to list counterarguments <u>per se</u> but instead, requiring them to simply list their thoughts concerning the forthcoming persuasive message. He argues that such instructions should not elicit counterarguing more than any other thought process and in support of his contention most of the thoughts expressed (in the 1967 study) were not counterarguments. Yet he does recognize that "it

cannot be claimed that counterarguments occurred spontaneously (1967, p. 305)." Since subjects were asked to record their thoughts and since the study ostensibly concerned thought processes, subjects may have been encouraged to produce thoughts to an extent to which they would not ordinarily occur. Thus, while Brock may not have specifically encouraged counterargument production as opposed to other types of comments, it is possible that those counterarguments produced by his subjects represented cognitive activity that does not typically occur in a communication setting. This problem is even more apparent when subjects are specifically asked to list "ideas, facts, or examples you would use to support your own position (Miller & Baron, 1969)." In short, it is possible that in the absence of a request by the experimenter, no counterarguments whatsoever would have occurred to subjects in either study. Of course, in our discussion above, reactivity per se is not the sole problem. This main effect of more counterarguments, though potentially theoretically misleading, would not by itself lead to erroneous conclusions about the effects of the experimental treatments. Rather, it is the likelihood of an interaction between the reactivity of the counterargument measure and the experimental treatments that concern us. In a later section we will discuss in greater detail the way in which such an interaction might arise.

The problem of validity is a general one, but it can be dealt with in terms of two slightly different situations: (a) the specific experimental circumstances in which counterarguing might occur, and (b) the more general, natural, everyday, or real-life characteristics of persuasion situations. Most theoretical treatments that interject counterarguing into the explanatory process attribute any differential effects to counterarguing that goes on either during or before the presentation of the persuasive message (Festinger & Maccoby, 1964; Freedman & Sears, 1965; McGuire, 1964). Here, the question of validity focuses on the extent to which the counterarguments generated on the measure correspond to those thought of either immediately prior to or during the presentation of the communication. Note that in these experimental situations, only counterarguments readily available or accessible to subjects should aid them in resisting persuasion. In such settings, a subject attending to an ongoing message (or about to hear one) rarely has a great deal of time in which to prepare or muster counterarguments. If so, then the construct or process requiring assessment is the ability of subjects to produce counterarguments quickly. That is, in terms of the theoretical use to which counterarguing is put, the focus should be the amount of counterarguments readily available to subjects at the time they are hearing or preparing to hear a persuasive measure.

A straightforward means of eliciting primarily readily available counterarguments is to severely limit the amount of time subjects have available to respond. If subjects must respond within (say) 45 seconds,[1] one can be fairly certain that whatever counterarguments they produce in response to a request to "list all counterarguments you can think of" represent those readily accessible to them. Unfortunately, few measures of counterarguing incorporate such time restrictions. For example, Brock (1967) allowed subjects 10 minutes in which to respond to his measure; Miller and Baron (1969), Janis and Terwilliger (1962), and McGuire (1962) imposed no time limits whatsoever on their subjects. Clearly measures such as these do not seem to provide valid assessment of readily available counterarguments. We have no confidence that they assess subjects' ability to produce counterarguments quickly, nor is there reason to expect close correspondence between the responses elicited by the measure and those that arose at the earlier critical point.

Imposing a strict time limit seems to hold promise for insuring correspondence. Certainly, if subjects actually engage in counterarguing prior to a reactive request to list counterarguments, those they actually did produce should remain relatively fresh in their minds and therefore capable of being expressed with a short latency. Unfortunately, while the above reasoning is sound, utilizing a short response period does not eliminate the possibility that subjects respond to the measure by producing counterarguments that are readily available to them but not spontaneously used or thought of during or before the message. Despite this ambiguity, however, we would still argue that imposing a severe time restriction constitutes a partial means of excluding invalid comments. Specifically a severe time limit would exclude all non-available or inaccessible comments that, although invalid, would otherwise be reflected in the measure. A similar point is made by Osterhouse and Brock (1970) to explain their use of a 3-minute time limit. That is, if a counterargument spontaneously occurs to a subject before or during the message, that subject should subsequently be capable of expressing it quickly. If, on the other hand, no counterarguments occur spontaneously to the subject during or before the message and he is then given only a brief period to produce counterarguments, at most his response will only include those obvious few that currently are readily available to him. Thus, the danger (referred to above) of using a long response period is that it increases the possibility that responses will include invalid comments.

Natural or "real life" persuasion situations differ from the experimental settings in that the entire persuasion process temporally extends further on both sides of the point at which one actually hears the persuasive materials. That is, the temporal onset of the experimental conditions and the temporal positioning of the response measures obviously do not artifically delimit the persuasion process in real life. There, one typically has ample time to either anticipate or dwell upon the tacks or positions President Nixon will take if one decides two weeks in advance to listen to his press conference on TV. Likewise, later one can typically mull over what one heard (or can recall) and in one's leisure construct counterarguments against the speaker's position.

Of course, experimental procedures could be altered to correspond more closely to the temporal realities of real life. A logical extension of our preceding argument, then, is that if one wishes to generalize to a setting in which subjects ordinarily have a good deal of time to counterargue, as in Brock (1967), the appropriate procedure is to give the subject an analogous amount of time in the setting and then require him to produce his counterarguments in a short period of time. This would not guarantee that the responses would correspond to those counterarguments spontaneously generated prior to the request to do so, but it would restrict nonspontaneous responses to obvious and readily available ones and thereby would improve the validity of the measure.

The Causal Relation Between Attitude Change and Counterarguing

The theoretical treatments of attitude change that invoke counterarguing as an explanatory mechanism all specify a single causal chain--that the amount of counterarguing determines or controls attitude change. The existence of this particular causal sequence cannot be verified by the measure employed. Indeed, even a totally flawless measure would not answer the question of causality. It is always possible that regardless of how the researcher

temporally orders his measures of counterarguing and attitude change, people construct (muster) counterarguments to support whatever position they hold after they have been exposed to the persuasive materials. That is, counterarguing may be a rationalization process, a post-persuasion technique used to justify whatever position one finds oneself holding. In other words, it may not be a mechanism for resisting influence. If observed differences in counterarguing do stem from rather than cause differential attitude change, the theoretical explanations that invoke counterarguing become worthless.

It is hard to guess how likely it is that people do develop or muster counterarguments as a response to changes in their own attitudes. We suspect, however, that in ordinary life people do not typically generate arguments in response to their own prior attitude change. On the other hand, when people serve as subjects in an attitude change study, we suspect that this may occur quite frequently. In other words, with highly reactive measures of attitude and/or counterarguing, a sensitivity to the causal sequence of the two processes becomes especially important. When people are asked their opinion, they often feel that they should have reasons for it. In other words, the act of scrutinizing a person's attitude may particularly predispose him to produce counterarguments against the speaker (and in support of his own position). Moreover, even when attitude assessment is absent, those who were in an experimental treatment that led them to resist influence may interpret the experimenter's request to produce counterarguments as a demand to justify retaining their original position.[2] Thus, with a reactive measure of counterarguing, one would expect counterargument production to parallel the degree to which subjects resist influence. In short, the possibility of an interaction between the reactive aspects of this measure and the experimental treatments make it impossible to ascertain the causal direction between attitude change and counterarguing. This question of causality has clear implications for the construct validity of the counterargument measure. The construct of interest on such a measure is the degree to which subjects generate thoughts which allow them to resist persuasion. To the extent that such a measure assesses thoughts which result from persuasion, the measure is an invalid one. How can we resolve this question of causality, or at least the measurement problems it poses? The sections to follow address these issues.

Anticipatory counterarguments. Brock's (1967) response to this problem was to measure counterarguing just prior to the persuasive attempt (but after his subjects had been forewarned of the direction and nature of the communication). On casual appraisal this procedure does seem to eliminate the possibility that any observed differences in counterarguing between his conditions reflect the consequence of prior differential attitude change. Indeed, using this technique Brock did obtain significant differences in counterarguing between his conditions. The solution becomes more ephemeral than first suspected, however, when one considers the possibility of anticipatory attitude change. When, as Bauer (1965) suggests, subjects play the social-psychological game, the minimal information given by the forewarning may, by itself, produce differential attitude change. If so, even a measure of counterarguing inserted temporally prior to the presentation of persuasive materials, may nevertheless reflect the consequence rather than the cause of attitude change. In this instance, differential counterarguing could be a response to or product of the differential anticipatory attitude change produced by the presence or absence of a few minimal cues about the speaker and/or the position advocated in the communication.

We clearly need to know more about the conditions that produce anticipatory attitude change. Several studies show relatively small amounts (Deaux, 1968; McGuire & Millman, 1965; Papageorgis, 1967), whereas others seem to show somewhat substantial effects (Wicklund, Cooper, & Linder, 1967; Linder, Cooper, & Wicklund, 1968; Janis & Gilmore, 1965). If, under circumstances that typically do not produce anticipatory attitude change, one nevertheless obtained differences in anticipatory counterarguing as a function of some theoretically meaningful variable, one could retain some confidence in the conclusion that the difference did not simply reflect differences in anticipatory attitude change. Unfortunately, our limited knowledge about anticipatory attitude change makes it difficult to specify for any particular instance whether anticipatory attitude change is unlikely. Given this state of affairs, measuring anticipatory counterargumentation in and of itself does not seem to solve the problem adequately.

This line of reasoning, however, does suggest a procedure that might offer a potential solution. If one could demonstrate that treatments differentially affected anticipatory counterargument production but had no effect on anticipatory attitudinal position, one could be confident that the obtained counterargument differences were not due to differential attitude change. Moreover, if one then exposed subjects to a communication and found that the message had least impact in those conditions which facilitated anticipatory counterargument production, it would both increase one's confidence in the measure and establish a causal relationship between counterarguing and ability to resist persuasion.[3]

Construct validity. Typically, the use of a reactive measure does not totally invalidate the resulting experimental data; it simply limits its generality to settings in which subjects are aware that they are being measured. The problem in the present instance is that reactive measures of counterarguing may create specific demand characteristics that have differential effects on counterargument production across treatments. The nature of this experimental demand raises the possibility that measured counterargumentation may be a function rather than a cause of attitude change. Thus one obstacle in developing a theoretically useful measure of counterarguing is ambiguity about the direction of causality between measured counterargument and attitude change.

Inferring a causal relationship between a measured attribute or process and some other criterion event does not ordinarily present a great problem since it is clear which of the two occurred first. When a temporal sequence is ambiguous, however, the process of inference becomes more complex. For example, consider a situation where a powerful source delivers an anti-smoking message and finds that the more a subject changes his attitude as reflected on a paper and pencil instrument, the more he subsequently cuts down on smoking. Here one would be confident that attitude change led to the criterion behavior only if there was good reason to assume that the decision to reduce smoking followed the attitude change. Since it is difficult to substantiate this assumption, it raises the possibility that the drop in smoking was not due to attitude change but instead to the subject's decision to comply with the request of a powerful communicator [see Kelman (1958) for distinction between compliance and internalized attitude change]. If this were the case, attitude change could be easily interpreted as a result rather than a cause of the decision to cut down smoking (as in Zimbardo et al., 1965; Smith, 1961). As in this example, it is difficult in the situation under discussion to

ascertain at what temporal point change occurs in either the so-called intervening process (counterarguing) or the so-called criterion behavior (attitude change). As previously argued, given this state of affairs, one cannot generally gain adequate information about causal direction simply by measuring carefully both responses under a given treatment. We would argue, however, that it is not the ambiguity about temporal sequence per se that renders such data inadequate; the difficulty in establishing causality is a joint function of this temporal ambiguity and the equal plausibility of both causal hypotheses. Specifically, if it seemed logically impossible for variable X to cause Y and intuitively likely that Y caused X and we observed X and Y covarying when all else was held constant, one would feel fairly confident that Y indeed caused X even if the temporal sequence of events Y and X were unknown or difficult to specify. In short, if one could specify a set of conditions in which it seemed implausible that attitude change could cause counterarguing, one could make inferences about causal relationship despite the difficulty in specifying temporal sequence. In point of fact, one can specify such conditions. As mentioned above, it seems likely that people develop counterarguments as a function of their attitudinal position only (a) when they are required by the experimenter to counterargue or defend their own position or (b) when their attitudinal position is scrutinized. In other words, we assume that the instances in which counterarguments stem from attitudinal position are typically those in which the subject is highly aware of assessment. Had he retained his attitude in the face of a persuasive appeal and no one queried him about it, we doubt that he would feel much pressure to construct counterarguments against the persuasive message. Thus, one could gain insight into the causal relationship between attitude change and counterarguing by using an unobtrusive measure of attitude and a measure of counterarguing that reflects only the spontaneous cognitive activity that precedes the measurement attempt.[4]

Unfortunately, as already indicated, even those counterargument measures that utilize extremely brief response periods (Baron & Miller, 1969) do not generally guarantee the validity (i.e., spontaneity) of the responses in most settings. There is, however, one particular situation in which such a measure would be useful. As indicated earlier, the difficulty of ascertaining the validity of a counterargument produced on a measure having a short response period stems from the possibility that subjects might simply list readily available counterarguments despite the fact that they did not spontaneously think of these arguments prior to the measurement procedure. Moreover, the degree to which such nonspontaneous, readily available responses are produced could well be an inverse function of attitude change. One could eliminate this possibility simply by using a message topic for which people typically lack readily available counterarguments. While restricting the validity of counterargument measures to such situations rules out the great majority of communication topics, it still leaves available a series of topics that are of great theoretical interest in terms of the relation of counterarguing to attitude change--attacks on cultural truisms. McGuire (cf. 1964) specifically chose such topics for his inoculation research because he assumed that people lacked practice in defending those beliefs that rarely befall attack and which they ordinarily regard as unassailable. In short, if one assumes that subjects ordinarily have few readily available counterarguments with which to rebut an attack against, say, taking a yearly TB or cancer X-ray, then any responses produced with a short latency are likely to reflect thought processes that occurred spontaneously prior to the measurement attempt. If one further assumes (as we do above) that it is rather implausible that such spontaneous counterarguments are caused by the degree of attitude change, one has some basis for inferring a causal relationship.

In short, topics concerning cultural truisms hold promise for research that utilizes dependent measures of counterarguing. As McGuire's research implies, subjects should be capable of generating counterarguments on such topics if given sufficient time, practice, and motivation to do so, but otherwise they should be unlikely to have readily available counterarguments, therefore, minimizing a major threat to the validity of open-ended counterargument measures.

Of course one's confidence in attributing causality to the counterargument process is heightened to the extent that the experimental treatments seem logically related to counterargument production and no other intervening process. Insofar as McGuire's work is concerned, however, this is not clearly the case (see above discussion of Tannenbaum). Moreover, it must be recognized that even dealing with such a restricted situation as this, the validity of one's inferences are based upon assumptions that while seemingly plausible may well be invalid: (a) subjects may indeed spontaneously generate counterarguments after they make an attitudinal decision regardless of whether their attitude is assessed and (b) it is possible that people can readily produce arguments in defense of cultural truisms.

The discussion above suggests why we refrained from advocating the most obvious means of assessing causality, i.e., independently manipulating variables that have differential effects upon measured counterarguments and observing attitude change as a dependent variable. The discussion below, however, gives more explicit reasons for our reluctance.

For this particular type of problem, the experimental approach (random assignment to independent treatments) generally has much to recommend it. One does not worry overly about the reactivity of the measure or the temporal sequence of the measured and criterion processes. One simply identifies a set of treatments that have differential effects on the measured variable and then observes what effect these treatments have on the criterion behavior. If it can be demonstrated that the sole effect of the treatment is its effect on the measured intervening variable, and if the treatment has the predicted effect on the criterion response, one has confidence that changes in the criterion are a function of changes in the intervening process. Moreover, such an outcome increases one's confidence in the validity of the measure used to assess the intervening response.

The problem with using such a strategy for assessing the role of counterarguing (and determining the validity of counterargument measures) is that treatments that affect measured counterarguments are quite likely to have other effects that could also cause any observed attitude change. This possibility explains why typical means of construct validation (Cronbach & Meehl, 1955) have not been stressed as a panacea. An example will make this clear. A straightforward means of investigating the construct validity of any measure not having a specific criterion is to see if treatments thought to affect the construct do indeed have predicted effects on the measure. If indeed this outcome is obtained, it should raise one's confidence in the validity of the measure. Moreover, one's confidence in the validity of the measure should be increased even further if it were also found to be related in a predicted manner to other elements of the "nomological net." Now suppose one administered a treatment (such as distraction) which supposedly affected counterarguing and found that the predicted decrease indeed occurred among distracted subjects. In addition, suppose that distraction not only decreased

counterarguing, but it also increased attitude change. This outcome should give us a good deal of confidence in both our theory and our measure, but in actuality the reactivity of our measure and the possibility that distraction has effects beyond those of just decreasing counterarguing (such as creating conditions of high effort, novelty, positive affect, high ambiguity, subject suspicion, etc.) detracts seriously from that confidence. For instance, to the extent that the distraction increases the effort required to hear the message, the dissonance theory interpretation of the role of effort could account for the observed attitude change. And this differential attitude change in turn could elicit the appropriate amount of counterargument on a reactive measure of counterarguing.

Other Measurement Possibilities

In the preceding sections we have discussed prior attempts to measure silent counterarguing. In the section below we will present some procedures which though not as yet tried, may have some potential value for establishing construct validity for counterarguing.

Inserting time intervals during the presentation of persuasive materials. One procedure for studying whether silent counterarguing can indeed aid in resisting persuasion is to explicitly allow subjects (in the experimental condition) time during which they can muster whatever cognitive resources they can to resist the persuasive impact of the speaker. Here one might explicitly insert 15- or 20-second intervals of silence after each major idea in the communicator's presentation. Presumably this would allow but not necessarily encourage the respondent to think about the content of the persuasive communication and decide whether it is fallacious and if so, why. With this added time for thought, the respondent could presumably think of arguments against the speaker's position without being distracted by the speaker's simultaneous presentation of some new point. Of course the proper control group for such a treatment is a critical consideration. Probably the most reasonable control is to insert the same time intervals between the various aspects of the speaker's presentation but require subjects to engage in some other cognitive task during the 15- and 20-second breaks. The irrelevant task should engage higher mental functioning so that in this control condition subjects can't easily counterargue.[5]

This time interval solution is interesting for several reasons. First, it would facilitate counterargument production without reactively requiring or specifically requesting it. Secondly, it would still permit the use of a counterargument measure that utilized a limited time interval. Admittedly, however, it seems more appropriate to view this procedure as more of an experimental technique for assessing the role of distraction upon counterargument than as a measurement technique.

The distraction hypothesis (Festinger & Maccoby, 1964) proposes that the presence of some irrelevant source of stimulation during the presentation of persuasive materials increases their persuasiveness by interfering with subjects' ability to effectively counterargue against the persuasive content. In other words, the simultaneous, irrelevant, or ancillary stimulation captures attention and thereby preoccupies to some extent one's mental apparatus. If distraction conditions were crossed with the experimental and control groups mentioned

above such that half the subjects in each cell watched a silent movie (e.g., Day of the Painter) during the periods in which the persuasive communication was presented--but not during the periods in which either silent or interpolated activity time intervals were inserted--we should expect the theoretical predictions stemming from the distraction hypothesis to occur only under the control conditions. That is, only under the condition where the time interval inserted between the speaker's points was filled with irrelevant activity should the distraction hypothesis be confirmed.

Recognition vs. recall measures. Another possibility is to explicitly prepare subjects with counterarguments to aid in their resistance of a persuasive appeal. This sounds on the face of it, similar to McGuire's procedures in his studies on inoculation. However, unlike McGuire's procedures, the intent here would be to use a more sensitive measure of counterarguing for retrospectively picking up differences in counterarguing that occurred at the critical point in time. Like our earlier suggestion about restricting the time available for the recall of counterarguments, in the present instance a time limit would again be imposed, however, the measure of counterarguing would be a recognition test. To spell out a procedure more fully, the subject would first study a substantial set of counterarguments against various propositions. Only some of these propositions would be presented in the crucial communication. Later, after exposure to the communication, the subjects would be given a list of counterarguments. It would contain some of those they studied, some novel ones, etc. But only some of the ones previously studied would be relevant to the critical communication. The subject would be asked to check off within the time limit imposed those counterarguments that occurred to him during the presentation of the communication. Later, after the time limit elapsed, a subject could be further asked to identify those segments of the communication to which his counterarguments applied. In other words, could he recall the content of the communication for which he thought his checked counterarguments did dispute the communicator's position?

This measuring technique has the advantage of greater sensitivity in that recognition measures are typically more sensitive than recall measures. Once again, within this basic measurement technique one could examine whether theoretical variables thought to influence counterarguing do in fact do so (as detected by this measure). In other words, we can look at whether a distraction manipulation interferes with ability to counterargue as measured by relevant counterarguments checked. Unfortunately, this measure is certainly not free from reactivity, although the imposed time limit should mitigate against the reactivity to some degree. Such a measure, however, would prove useful as a quasi criterion measure in testing the validity of more open-ended measures.

Separating the motivational component of counterarguing. The technique suggested above also provides a handle for separating out two aspects of counterarguing that are typically lumped together--the motivational and the purely cognitive. The purely cognitive activity consists of bringing to one's own attention, reasons for ignoring or resisting the speaker's position. The motivational aspect of counterarguing is the inclination to want to resist the communicator--the inclination to want to have reasons to discard or ignore the speaker's points. Presumably, if a given experimental treatment primarily affects one's motivation to counterargue rather than one's ability to actually

counterargue, this could be detected from our recognition measure. In a treatment that primarily provides a motivational effect, the person would presumably check many counterarguments as those that he used even if in fact they were not relevant to the speaker's presentation. In other words, we take an activating or arousing view of motivation. If the effect of the treatment is primarily motivational, the effect should show up in the counterarguing measure as a report by the subject of the use of many counterarguments. The emphasis from the subject's point of view would be on the number rather than on the matching of purely relevant counterarguments to the speaker's presentation. Perhaps too the motivational component can be assessed by including in the check list phrases that primarily represent derogation or defamation of the communicator and message rather than rational objections to his position.

Evaluative vs. rational rejection of persuasive appeals. Elsewhere (Miller, 1968) we have argued that the emphasis on man's rationality has perhaps been overdone in theoretical treatments of attitude change. Often people seem adept at resisting influence in spite of the fact that they lack concrete reasons for opposing the information and persuasive material to which they are exposed. For this reason, it might be important to try to assess the extent to which people employ outright evaluative rejection vs. reasoned rejection of persuasion materials. One technique might be to supply subjects with an instrument for facilitating self-report of their own cognitive activity during the presentation of the communication. This self-monitoring would of course require some special preparation such as prior practice using the self-monitoring device as well as some instructional priming so as to insure accurate self-report. Toward this aim subjects might be given a board containing two buttons labeled "reject outright" and "reject with a reason." They would be instructed to use either or both buttons ad lib while listening to the course of the communication. To undercut the typical bias toward presenting oneself as rational, subjects might in advance be given directions that provide social support for the use of the reject button. They might be told that as a matter of fact some messages are so poor that it is quite common for people to frequently reject them without necessarily having any explicit reason that they can think of. Furthermore they might be instructed that afterward, whenever they pressed the "reject with a reason" button, they would be required to describe their reason in writing. Even with this reminder that they will be required to actually produce reasons in instances in which they say they have them, the same criticism mentioned earlier in the paper arises. The reasons given may not have been thought of at the critical point in time but instead those thought of at the time of measurement. Nevertheless such a procedure would provide at least a rough index of the relative frequency with which subjects actually rely on rational forms of belief defense.

Using this kind of measure or perhaps a related one which employs three buttons rather than two, enabling subjects to indicate acceptance of the speaker's point as well as reasoned and unreasoned rejection, we would want to examine, as in the measuring examples above, the effects of variables theoretically presumed to affect the counterarguing process. Again this technique allows for separate assessment of motivation to counterargue from actual rational cognitive activity.

Subvocal measures. Both Brock (1967) and Festinger and Maccoby (1964) have hypothesized that counterarguing involves covert-subvocal responding. This hypothesis seems quite plausible in light of the research dealing with covert (subvocal) oral behavior. McGuigan (1970) concludes, after an extensive review of this literature, that covert oral behavior (measured by electromycrogram readings from the tongue and the lips) tends to increase during the silent performance of a wide variety of language tasks (e.g., silent arithmetic, imaginary speech, silent reading, memorization, etc.). This increased oral behavior is accompanied by increased respiration rate and EMG activity in the preferred writing arm. While there is nothing in this literature that establishes that heightened covert oral behavior accompanies counterargumentation, these findings clearly suggest some exciting possibilities for establishing temporal location of the counterargument process. The problem of course is determining when (and if) covert oral behavior signals counterargumentation as opposed to some other language-related process (e.g., silently repeating the message). However, using subvocal measures in conjunction with the open-ended measures discussed at length above might well circumvent this problem and, therefore, would seem to be a logical next step in counterargumentation research.

Conclusion

The foregoing discussion outlines a number of complex problems in both measuring counterarguing and establishing its causal role in the persuasion process. Given these limitations we recognize (and in fact emphasize) that data from measures cannot at this point clearly establish the validity of theoretical positions that emphasize counterarguing as an intervening concept. But on the other hand, when responses on the measure correspond to various other elements in the nomological net in a predicted fashion, we certainly will have more confidence in our theory and our measure than if the predicted relationship fails to occur. Furthermore, the utility of counterargument measures inheres not so much in settings where the predicted outcome is obtained but in the opposite. For example, consider a situation in which, counter to theory, a distraction manipulation decreases attitude change and increases measured counterarguing (Miller & Baron, 1969). While one cannot be certain that the heightened counterarguing caused the reduction in persuasive impact, the fact that a given treatment had a nonpredicted effect on two elements of the nomological net gives us a good deal of confidence that there is something inadequate in the theory responsible for the prediction.

It should also be noted that while certain assumptions are necessary to interpret responses to a counterargument measure as a valid indicator of the construct of interest, our own criticisms are based in large part on the equally questionable assumptions that counterarguing can be caused by attitude change and that subjects have counterarguments readily available even when they do not spontaneously counterargue.

In short, although measuring counterarguing presents complex problems that resist solution, we don't advocate abandoning the problem. Instead, we hope that attitude change theorists note the fallibility of such measures and remain cautious when using data from them to substantiate a theoretical position. In addition, we feel that alternative measurement procedures warrant exploration. This seems particularly true in terms of the long-term interest of social psychologists in relating thoughts to attitudes. Though researchers

have used different labels for the thought processes that concerned them, e.g., "defensive reactions" (Janis & Terwilliger, 1962), "belief bolstering" (McGuire, 1964), "counterarguing" (Festinger & Maccoby, 1964), "source derogation" (Aronson, Turner, & Carlsmith, 1964), "communicator defamation" (Miller & Levy, 1967), "communication derogation" (Bochner & Insko, 1966), "cognitive responses" (Greenwald, 1968), the research area poses a common set of methodological problems. We hope that our discussion clarified these problems and encourages further work.

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FOOTNOTES

[1]It is likely that the optimum latency period for a counterargument measure will be specific to the particular situation, audience, or message utilized. For example, Baron and Miller (1969) found that a 45-second response period produced a measure that was sensitive enough to detect treatment differences, while Osterhouse and Brock report that in their situation, a 1-minute response period was too brief to produce such differences. Thus it seems likely that pilot data will be indispensable in determining the optimal length of the response period.

[2]Even if all subjects viewed this request as a demand to justify their post-communication position, only the comments of those who resisted the message would qualify as counterarguments for the comments of persuaded subjects would not oppose the position advocated by the message. Thus, counterarguing would still be a function of persuasion.

[3]Something similar to a Solomon 4-group design might be advisable in implementing such a procedure to insure that the results would not be due to the repeated testing of individual subjects.

[4]Spontaneous cognitive activity refers to that which was not elicited by reactive aspects of the experimental setting or the measurement procedures. Implicit in the discussion above is the assumption that spontaneous counterarguing will not generally be a consequence of attitude change.

[5]The experimental demand to resist persuasion must also be equated across conditions.